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TECHNICAL MEMORANDUM

TO: Dennis Leonard, DTE Energy
Thomas Rhea, DTE Energy
Jason Roggenbuck, DTE Energy

DATE: December 11, 2015

BY: Scott Hutsell, AECOM

PROJECT: DTE St. Clair NOI – Scrubber Basins

RE: **Notice of Intent - Unit 6 Scrubber Basins
DTE St. Clair Power Plant**

Notice Of Intent

This Notice of Intent is required by the United States Environmental Protection Agency under the HAZARDOUS AND SOLID WASTE MANAGEMENT SYSTEM; DISPOSAL OF COAL COMBUSTION RESIDUALS FROM ELECTRIC UTILITIES [RIN-2050-AE81; FRL-9149-4] (EPA Final CCR Rule) Presented below is the project background, summary of findings, limitations, and certification.

1.0 SITE BACKGROUND

The St. Clair Power Plant is located in East China Township, St. Clair County, Michigan on the west bank of the St. Clair River. The plant was initially built in 1953. Unit 6 Scrubber basins were built in 1973 to handle FGD scrubber material generated as the scrubber cleaned the gases passing through the smokestacks. Filling of the basins ceased in the mid-1970's.

2.0 REGULATORY BACKGROUND

Under the provisions of part § 257.100 of the EPA Final CCR Rule, DTE can complete dewatering and final closure of the Scrubber Basins by April 17, 2018 and the area will not be subject to the other Final CCR Rule requirements. The Notice of Intent to initiate closure shall be posted to the operating record by December 17, 2015.

3.0 NARRATIVE DESCRIPTION OF CLOSURE

The Scrubber Basins were built in 1973 to handle FGD scrubber material generated as the scrubber cleaned the gases passing through the smokestacks. The area defined for closure is shown on Figure 1.

Closure will proceed with the following main tasks. A detailed schedule is provided as Attachment A of this submittal.

- 1) Closure Design (2016-2017) – Closure design will include providing final grading and topography for a final cover composed of an 18-inch infiltration layer (minimum permeability of 1×10^{-5} cm/sec overlain by a

6-inch erosion layer (that can sustain vegetation) placed over CCR materials in the impoundment. The closure design will be in accordance with the accepted standard of practice for closure of facilities of this type.

Alternative covers, consistent with the provisions of the CCR rule, will be evaluated during design for part or all of the proposed closure area.

- 2) Dewatering and Runoff Diversion (2016-2017) – The outfall for the Scrubber Basins drains south to the Rankin Ditch. During 2016, water will be pumped from the Scrubber Basins to the outfall and to the Rankin Drain to allow the basins to dry out.
- 3) Placement of Fill (2016-2017) – The Scrubber Basins will be regraded to provide a stable surface for final cover materials and access for construction traffic.
- 4) Construction of Final Cover (2016-2017) – Closure of the Scrubber Basins is expected to proceed from north to south, however, the contractor may choose to construct the final cover over the southernmost portion of each Basin to provide storage for stormwater runoff during construction. The construction schedule (Attachment A) shows closure of the Eastern Basin and Western Basins will occur in either 2016 or 2017.

Additionally, DTE may elect to pursue clean closure of the Unit 6 Scrubber Basins. Clean closure would include complete removal of CCR materials and 6" of underlying soils and regrading of the topography in and around the Scrubber Basins for future re-use.

4.0 CERTIFICATION

I, Scott G. Hutsell, being a Registered Professional Engineer in good standing in the State of Michigan, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification is prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the design of the final cover system as currently prepared, will meet the requirements of 40 CFR § 257.100 (b)(3)(i)

SCOTT HUTSELL

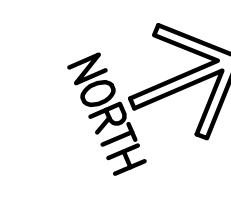
Printed Name

12/11/15

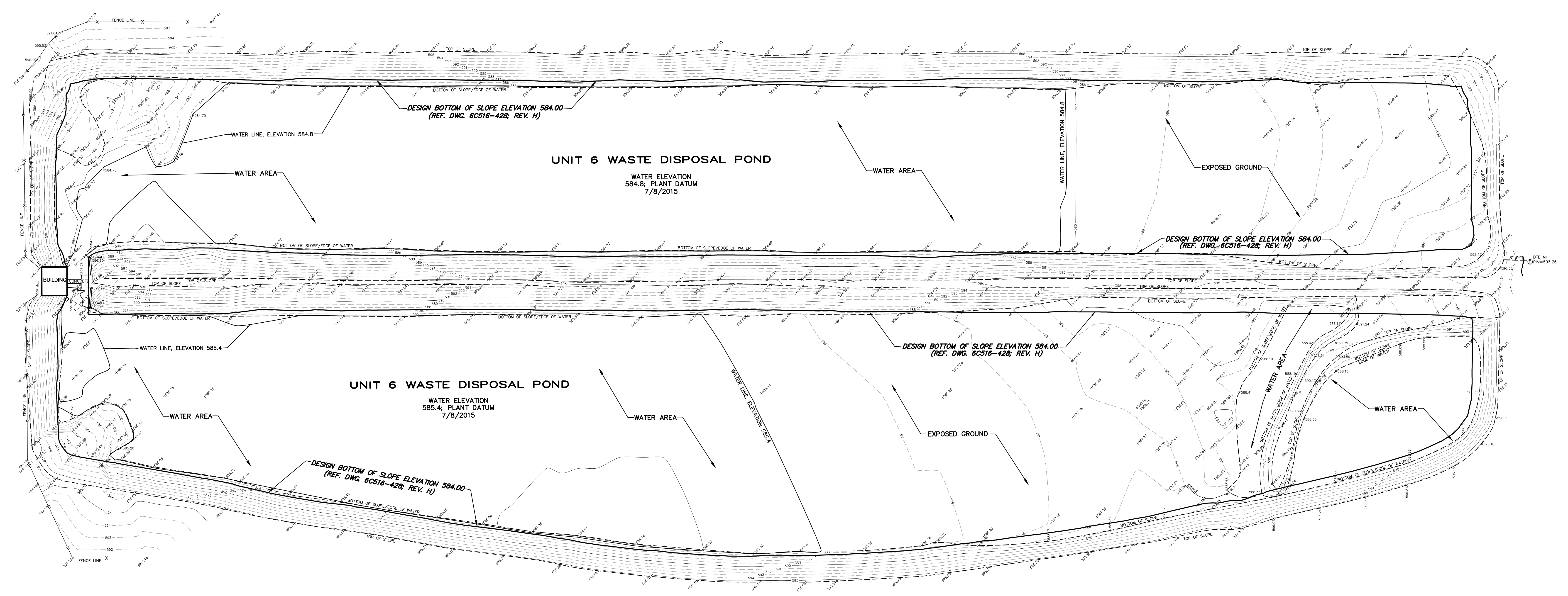
Date



NOTES:
 DRAWING IS SET UP IN THE MICHIGAN STATE PLANE COORDINATE SYSTEM,
 SOUTH ZONE, INTERNATIONAL FOOT.
 THE HORIZONTAL DATUM IS NAD 83 (2011).
 THE ELEVATIONS ARE IN FEET AND DECIMALS THEREOF AND ARE REFERENCED
 TO PLANT DATUM.
 CONTOURS INDICATED ARE AT 1 FOOT INTERVALS.
 REFERENCE DRAWINGS:
 5SE 516-14A; REV. M
 3MS 516; REV. H
 6CS16-428; REV. H



THE APPROXIMATE AMOUNT OF MATERIAL TO BE REMOVED
 TO ACHIEVE THE DESIGN BOTTOM ELEVATION OF 584.00 IS:
 40,747 CUBIC YARDS ±



THIS DRAWING AND THE WORK PERFORMED TO
 CREATE THIS DRAWING ARE A PROPERTY OF
DTE ENERGY'S SURVEYING SERVICES
 545 SERVICE BUILDING
 (313) 438-3046

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| DTE Energy - DTE Electric Company Central Design | |
| TITLE TOPOGRAPHIC SURVEY OF UNIT 6 WASTE DISPOSAL PONDS | |
| SHEET 1 OF 1 | |
| LOCATION NAME ST. CLAIR POWER PLANT | |
| OPERATING SOURCE SURVEYING SERVICES | |
| DRAWING NUMBER 6SE 0516-023 | JOB NUMBER 201507175 |

| PROJ. ENG. | PROJ. DIR. | PROJ. ENG. | PROJ. DIR. | PROJ. ENG. | PROJ. DIR. | OTHER APPROVALS | DATE | DIVISION | SUPERVISOR | DATE | PROCESSED ON | DATE |
|------------|------------|------------|------------|------------|------------|-----------------|------|----------|------------|------|----------------------|-----------|
| | | | | | | | | | | | PRODUCED BY | 7/14/2015 |
| | | | | | | | | | | | CONTROL & CHECK | 7/8/2015 |
| | | | | | | | | | | | SURVEY ENGINEER | 7/15/2015 |
| | | | | | | | | | | | SUPERVISING ENGINEER | 7/15/2015 |
| | | | | | | | | | | | DIVISION DIRECTOR | |

| MADE BY | DATE | ARCH-CIVIL | ELECT. | MADE BY | DATE | ARCH-CIVIL | ELECT. | MADE BY | DATE | ARCH-CIVIL | ELECT. |
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| CHK BY | DATE | MECH. | DIV. DIRECTOR | CHK BY | DATE | MECH. | DIV. DIRECTOR | CHK BY | DATE | MECH. | DIV. DIRECTOR |
| | | | | | | | | | | | |



SCPP NOI Closure Construction Schedule

10-Dec-15 15:17

| Activity ID | Activity Name | Start | Finish | N | D | J | F | M | A | M | J | J | A | S | O | N | D | J | F | M | A | M | J | J | A | S | O |
|---|--|-------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCPP NOI Closure Construction Schedule | | 02-Nov-15 A | 01-Nov-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1110 | Complete Surveys of Scrubber Sludge Basins | 02-Nov-15 A | 04-Feb-16 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1010 | Place NOI in Operating Record | 17-Dec-15* | 17-Dec-15 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1120 | Begin Closure Design of Scrubber Sludge Basins | 04-Jan-16* | 01-Dec-16 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1130 | Identify Possible On-Site Fill Sources and Quantities | 04-Jan-16* | 01-Dec-16 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1040 | Dewatering of Scrubber Sludge Basins | 01-Mar-16* | 01-Aug-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1140 | Upgrade/Widen Access Roads to Scrubber Sludge Basins | 01-Mar-16* | 01-Dec-16 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1200 | Clearing/Grubbing in Western Pond of Scrubber Sludge Basins | 01-Mar-17* | 31-Mar-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1210 | Grading of Scrubber Sludge Materials to Establish Closure Grade: | 01-Mar-17* | 01-Jun-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1220 | Construction of Western Pond of Closure Cover | 03-Apr-17* | 01-Sep-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1150 | Clearing/Grubbing in Eastern Pond of Scrubber Sludge Basins | 02-May-17* | 31-May-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1170 | Grading of Scrubber Sludge Materials to Establish Closure Grade: | 02-May-17* | 01-Jun-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1160 | Construction/Establishment of Contractor Staging Area | 01-Jun-17* | 30-Jun-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1180 | Construction of Eastern Pond of Closure Cover | 01-Jun-17* | 29-Sep-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1230 | Seeding/Restoration Western Pond of Closure Cover | 01-Sep-17* | 02-Oct-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1240 | As-Built Survey of Closed Scrubber Sludge Basins | 02-Oct-17* | 31-Oct-17 | | | | | | | | | | | | | | | | | | | | | | | | |
| A1190 | Seeding/Restoration of Eastern Pond of Closure Cover | 03-Oct-17* | 01-Nov-17 | | | | | | | | | | | | | | | | | | | | | | | | |

█ Actual Work █ Critical Remaining Work ▾ Summ...
█ Remaining Work ◆ Milestone